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July 30, 2015

VIA U.S. MAIL AND ELECTRONIC MAIL

Ms. Dyan Whyte
Assistant Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Re: *2st Quarter 2015 Report – June 27, 2013 Amended Water Code section 13267 Order, Order No. R2-2013-1005-A1, Directives 8.f and g.- Chronic Toxicity*

Dear Ms. Whyte:

Enclosed, in accordance with the Regional Water Quality Control Board, San Francisco Bay Region's ("Regional Water Board") June 27, 2013 amended Water Code section 13267 Order, Order No. R2-2013-1005-A1, ("Order"), Lehigh Southwest Cement Company ("Lehigh") provides and encloses the 2nd Quarter 2015 Monitoring Report pursuant to Directives 8.f. and 8.g. of that Order. Consistent with modification of the Order's monitoring requirements (T. Yin, personal communication, to P. Bedore on September 9, 2014), testing of Pond 9 water was not conducted because the pond is to be monitored twice yearly – once during the dry season and once during the wet season. For Pond 9, a wet season sample was tested in Q1 2015 and a dry season sample will be tested in Q3 2015.

Chronic WET testing in the 2nd quarter of 2015 with *Ceriodaphnia dubia* indicated <1 TUc towards survival at all sites. For the reproduction endpoint, the test result for Pond 14 was 1.5 TUc, for Pond 4A was 1.6 TUc, and for Pond 13 was 3.4 TUc. Consistent with Lehigh's ongoing TRE for *C. dubia* in Pond 4A, samples used in corresponding bioassay testing were analyzed for trace metal constituents. The nickel concentration in a composite of the three renewal samples collected from Pond 4A was 55 µg/L, from Pond 13 was 38 µg/L, and from Pond 14 was 19 µg/L. These concentrations are sufficiently high to fully explain the observed toxicity. As previously reported in updates to Lehigh's TRE (*TRE Progress Update and Future TRE Activities*, memo dated September 30, 2013), nickel is suspected to be the principal contributor to *C. dubia* toxicity and has been sourced to quarry water discharged from Pond 4A. The update to Lehigh's TRE stated that when survival and reproduction TUc is ≤ 2, no further actions are necessary. Likewise, when survival and reproduction TUc is > 2 and the nickel concentration is ≥ 5.7 µg/L, the cause of toxicity is presumed to be related to nickel, and no

further actions are necessary. Because the survival and reproduction TUC at Pond 4A and Pond 14 was ≤ 2 TUC, and nickel is the likely cause of reproductive toxicity > 2 TUC at Pond 13, no further actions are necessary.

The memo *TRE Progress Update and Future TRE Activities*, dated September 30, 2013, stated: "Upon installation and start-up of the full-scale treatment system, Lehigh will confirm the control of toxicity under the full-scale operational conditions of its treatment system. Thus, the return to a quarterly monitoring schedule would not mark a conclusion of the TRE, given Lehigh's need to confirm toxicity control upon construction of appropriate full-scale treatment facilities. Efforts at confirmation of toxicity control will occur at a time when Lehigh begins operation of its interim treatment process, anticipated in October 2014." The Interim Treatment System (ITS) began operation in late 2014, but was still undergoing testing and operational adjustments in Q4 2014. ITS influent and effluent chronic WET testing with *C. dubia* was initiated in Q1 2015 and continued in Q2 2015.

In Q2 2015, ITS influent showed a reproductive end-point TUC of 2.9 for *C. dubia* (reproduction IC25 of 34.3% influent). The effluent showed less reproductive inhibition, but still exhibited slight toxicity, with a reproductive end-point TUC of 1.1 (reproduction IC25 of 95.3% effluent). Metals testing on composites of the three renewal samples yielded a nickel concentration of 71 $\mu\text{g/L}$ in ITS influent and 20 $\mu\text{g/L}$ in ITS effluent. These exceed the value of 5.7 $\mu\text{g/L}$ that is the empirical reproduction IC25 derived for *C. dubia* in buffered synthetic simulated site water from experiments performed in 2013. Thus, although the ITS achieved 72% removal of nickel, effluent concentrations of nickel appear elevated enough to explain toxicity still present in ITS effluent. Effects of minerals and/or other metals cannot be ruled out, however, so continued metals and minerals analyses, as well as targeted chronic WET testing, of ITS influent and effluent are anticipated.

Complete chronic WET results are contained in the report prepared by Pacific EcoRisk. Metals concentrations measured in the Pond 4A, Pond 13, Pond 14, ITS influent, and ITS effluent samples are contained in the reports prepared by Alpha Analytical.

If you or your staff have any questions regarding the above report or enclosed documents, please do not hesitate to contact me or Greg Knapp at Lehigh.

Very truly yours,

Nicole E. Granquist

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Enclosure

Ms. Dyan Whyte
Mr. Jack Gregg
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Cc: Jack Gregg, Regional Water Quality Control Board, San Francisco Bay Region
Greg Knapp, Director Environmental Region West, Lehigh